Reconsideration and allowance are respectfully requested.

AMENDMENT

Please amend the claims as follows:

1. (Amended) A glycosylated or nonglycosylated protein having agonist and/or antagonist activity of the formula

β^1-(linker^1)$_m$-α-(linker^2)$_n$-β^2 (1); or

β^1-(linker^1)$_m$-β^2-(linker^2)$_n$-α (2); or

α-(linker^1)$_m$- β^1-(linker^2)$_n$-β^2 (3)

wherein each of β^1 and β^2 has the amino acid sequence of the β subunit of a vertebrate glycoprotein hormone which is selected from the group consisting of thyroid stimulating hormone (TSH), follicle stimulating hormone (FSH), leutinizing hormone (LH) and chorionic gonadotrophin (CG) or a variant thereof which variant binds to the receptor for said β-subunit;

"α" designates the α subunit of a vertebrate glycoprotein hormone TSH, FSH, LH or CG or a variant thereof;

"linker" refers to a covalently linked moiety that spaces the β^1 and β^2 subunits at distances from the α subunit and from each other effective to retain said activity, and

each of m and n is independently 0 or 1;

wherein said agonist and/or antagonist activity is with respect to the receptor for which at least one of said β subunits is a ligand.

Please cancel claim 3.

5. (Amended) The protein of claim 1 wherein [the α subunit or] one or more of the α and β subunits [or both] are modified by the insertion of a CTP unit or variant thereof into a noncritical region thereof and/or wherein said linker moiety includes a CTP unit or variant thereof.

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6. (Amended) The protein of claim 1 wherein said variants contain 1-5 conservative amino acid substitutions as referred to the native forms or [are truncated forms] lack 1-10 amino acids at the N or C terminus of said sequences or both contain substitutions and lack 1-10 amino acids at the N or C terminus and wherein said variants in the context of said protein retain the ability to bind receptor for which at least one of said β-subunits is a ligand.

7. (Amended) A pharmaceutical composition which comprises the protein of claim 1 in admixture with a [suitable pharmaceutical] pharmaceutically acceptable excipient.

Claim 12, line 1, delete "12" and insert -- 11 -- therefor.

Claim 13, line 1, delete "12" and insert -- 11 -- therefor.

Claim 14, line 1, delete "13" and insert -- 12 -- therefor.

Claim 15, line 3, delete "14" and insert -- 13 -- therefor.

Claim 16, line 3, delete "15" and insert -- 14 -- therefor.

Please add the following claims 17-27:

17. The protein of claim 1 which is of the formula β^1-(linker^1)$_m$-α-(linker^2)$_n$-β^2 (1).

18. The protein of claim 17 wherein said β and α subunits are linked in head-to-tail configuration.

19. The protein of claim 18 wherein one of m and n is 0 and the other is 1 and wherein the linker is CTP.

20. The protein of claim 19 wherein m is 0, n is 1 and linker^2 is CTP.

21. The protein of claim 20 which is CGβ-α-CTP-FSHβ.

22. The protein of claim 1 which is of the formula β^1-(linker^1)$_m$-β^2-(linker^2)$_n$-α (2).